



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,779	11/20/2003	Muhammad Chishti	018563-004820US	1523
46718	7590	09/22/2005	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP (018563)			WILSON, JOHN J	
TWO EMBARCADERO CENTER, EIGHTH FLOOR			ART UNIT	
SAN FRANCISCO, CA 94111-3834			PAPER NUMBER	
			3732	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/718,779

Applicant(s)

CHISHTI ET AL.

Examiner

John J. Wilson

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5,8-19,21,27-49,51-53,57-62,87,88,90-120,133 and 134 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,20,22-26,50,54-56,80-82 and 89 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-19,21,27-49,51-53,57-62,87,88,90-120,133 and 134 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Status of claims:

Pending: Claims 1-5, 8-19, 21, 27-49, 51-53, 57-62, 87, 88, 90-120, 133 and 134.

Withdrawn: Claims 6, 7, 20, 22-26, 50, 54-56, 80-82 and 89.

Canceled: Claims 63-79, 83-86, 121-132 and 135.

In view of further consideration, the indication of allowable subject matter is hereby withdrawn and a new action follows.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-5, 8-19, 21, 27-49, 51-53, 57-62, 87, 88, 90-120, 133 and 134 rejected under 35 U.S.C. 102(e) as being anticipated by Chishti et al (5975893). Chishti teaches the claimed subject matter as disclosed in the patent.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8, 9, 13, 21, 27-30, 32-49, 51, 52, 57, 59-62, 87, 88, 90-115, 117-120 and 133 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martz (4793803) in view of Andreiko et al (5454717). Martz teaches generating a plurality of appliances having cavities with different geometries to reposition teeth, column 4, lines 12-15, and column 5, lines 4-12. Martz teaches using wax setups to generate the positions toward which the teeth will move, and therefore, does not show using a computer implemented method for generating the positions. Andreiko teaches using a computer to receive initial data, Figs 2G-2I, scanning, column 5, lines 17-20 and using the computer to calculate the desired positions to design and manufacture the appliances, column 13, lines 42-53. It would be obvious to one of ordinary skill in the art to modify Martz to include using a computer to compute instead of the wax up models to calculate positions and form appliances as shown by Andreiko in order to make use of known alternative ways of modeling tooth positions for forming more accurate appliances. The specific type of scanning used is an obvious matter of choice in known scanning techniques to the skilled artisan. Andreiko teaches several rules used to calculate the positions of the teeth, the specific rules used are an obvious matters of choice in well known orthodontic parameters used for calculating tooth positions to one of ordinary skill in the art. Finding a minimum movement is a well known use of computers when calculating parameters. See user input of Andreiko at column 13, lines 60-65, and different angles at column 17, lines 6-10 of Andreiko. Computer modeling of different alternatives is a well known use of the computer.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martz (4793803) in view of Andreiko et al (5454717) as applied to claim 1 above, and further in view of Lemchen et al (RE 35169). The above combination does not show segmenting the dentition. Lemchen shows generating a mathematical model of individual teeth, column 12, lines 26-29. It would be obvious to one of ordinary skill in the art to modify the above combination to include segmenting the dentition as shown by Lemchen in order to better show and analyze the data.

Claims 14-19 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martz (4793803) in view of Andreiko et al (5454717) as applied to claim 1 above, and further in view of Doyle (5879158). The above combination does not show using hidden structure for determining tooth positions. Doyle teaches modeling teeth including the use of hidden tooth root structures, Figs. 10-12. It would be obvious to one of ordinary skill in the art to modify the above combination to include the use of hidden tooth structures as shown by Doyle in order to better model the teeth.

Claims 31, 58, 116 and 134 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martz (4793803) in view of Andreiko et al (5454717) as applied to claim 1 above, and further in view of Robertson (5340309). The above combination does not show using animation. Robertson teaches animation, column 7, lines 63-69 and column 8, lines 1-28. It would be obvious to one of ordinary skill in the art to modify the above combination to include animation as shown by Robertson in order to better display the teeth.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-5, 8-19, 21, 27-49, 51-53, 57-64, 66-68, 72-77, 87, 88, 90-123 and 133-135 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of U.S. Patent No. 5,975,893 in view of Andreiko et al (5454717). The claims of the '893 patent do not claim using a computer to determine and generate the desired appliances. Andreiko teaches that it is known to use a computer to generate appliances. It would be obvious to one of ordinary skill in the art to modify the claims of the '893 patent to include the use of a computer as shown by Andreiko in order to better make the appliances as desired.

### ***Terminal Disclaimer***

The Terminal Disclaimer filed March 24, 2005 successfully removes the double patenting rejections based on patents 6,217,325, 6,318,994 and 6,450,807.

***Remarks***

With respect to the above rejection under 35 U.S.C. 102, it appears that this application may not have copendency with patent 5,975,893, and as such, the rejection is proper. With respect to the double patenting rejection based on 5,975,893, the filed Terminal Disclaimer does not disclaim this patent.

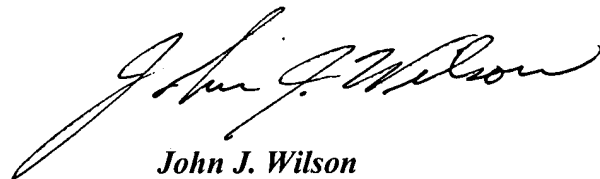
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Wilson whose telephone number is 571-273-4722. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P. Shaver, can be reached at 571-273-4720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "John J. Wilson". The signature is fluid and cursive, with a large, sweeping initial "J".

**John J. Wilson**  
**Primary Examiner**  
**Art Unit 3732**

jjw  
September 9, 2005